

Cottonseed—A Leading Cash Crop

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COTTONSEED, which less than 80 years ago was a worthless byproduct of growing cotton for its lint value, is today one of the important cash crops of the country. It is hardly conceivable that in 1857 the State of Mississippi penalized gin owners for dumping cottonseed in waterways when it is considered that in the year ended July 31, 1935, the value of crude cottonseed products amounted to no less than \$178,000,000. The distribution of the value of crude cottonseed products in that year was as follows: Cottonseed oil, \$91,849,000; cake and meal, \$54,023,000; hulls, \$10,260,000; and linters, \$21,868,000.

Thus, the seed has become of major importance, not only to the cotton growers, but to the entire edible and inedible oil industry. Even today, however, a 10,000,000-bale cotton crop is commonly thought of in terms of that much lint cotton. How many persons not directly interested realize that a cotton crop of this size yields, in addition to the lint, approximately 4½ million tons of cottonseed, of which about 80 percent is crushed, yielding roughly 1,000,000,000 pounds of edible oil, 1,500,000 tons of 41 percent protein content meal or cake, 950,000 tons of hulls, and approximately 850,000 running bales of linters? In the year 1934-35, the farm value of the cottonseed was equivalent to one-fourth of the value of the lint.

While the major importance of the seed is in its edible oil content, the other products have very extensive uses. Cottonseed cake and meal, for example, are important feeds used by the cattle and dairy industry and are also utilized to some extent as concentrated feeds for hogs, sheep, horses, mules, and poultry. Considerable quantities are also used for fertilizer.

In addition to providing a roughage for livestock, the cottonseed hulls are used in such widely diversified industries as the manufacture of baseballs, horse collars, and chemicals. Linters are used largely in the manufacture of explosives, rayon, cotton batting, felt for mattresses, in the paint and varnish industry, and in the manufacture of such products as cellophane, bakelite, collodian, sausage casings, photographic films, paper, plastics, and surgical dressings.

Growth of the Cottonseed Oil Industry

As late as 1875, only 5 percent of the cottonseed produced was crushed; this portion of the crop yielded products with a value of \$2,530,000. It is interesting, in view of the international character of the vegetable-oil industry at the present time, that one-eighth of the 25,000,000 pounds of oil obtained in that early year was exported.

Cottonseed gradually assumed greater economic importance as markets, both here and abroad, were opened. By 1927, the production of seed reached the high total of 7,989,000 tons, of which 6,308,000 tons, or 79 percent, were crushed. This seed yielded crude cottonseed products with a total value of \$240,000,000. While that year represented the peak from a quantity standpoint, the value of the seed was considerably higher in the war and immediate post-war years of relatively high prices. In the year ended July 1919 the value reached an all-time peak of \$384,000,000. The yield of cottonseed products has fluctuated in recent years largely in accordance with the size of the cotton crop. For the past two seasons the amount of cottonseed produced was substantially curtailed by reason of the agricultural adjustment program designed to bring lint cotton production more in line with consumptive requirements.

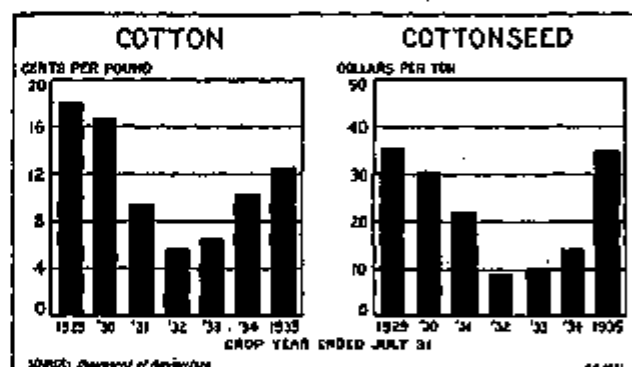


Chart I.—Average Prices Obtained by Producers for Lint Cotton and Cottonseed.

Comparative Price Trends

The rapid decline and subsequent advance in the price obtained by producers for both cotton and cottonseed since 1929 is shown on the accompanying chart I. It is apparent that the increase in the price of the seed from the lowest point in the depression has been considerably more rapid than the increase in the price of lint cotton. Whereas the average price obtained for lint has approximately doubled, the price received for seed in the crop year just passed was three and one-half times as large as in the crop year ended July 1932. In actual dollars the farm price of cottonseed has moved up from \$9.51 per ton to \$34.76 per ton. This latter figure is only slightly below the amount realized in 1928-29, a year of relatively high consumer purchasing power.

The rise in the price of cottonseed has been fostered not only by the drop in the quantity of cottonseed produced but also by the decline in the supply of

competitive oils and competitive finished products which directly affected the demand and price of cottonseed oil and products. Chart II illustrates the effect of these price changes on the value of cottonseed products. Notwithstanding the low yield in the year 1934-35, the total value of crude cottonseed products was almost exactly double the value of the crop harvested 2 years earlier. This chart also shows the trend of the price of refined cottonseed oil during the same period.

Since the cotton lint is usually mortgaged for production credit, the proceeds from the sale of the seed often furnish the grower with his only immediate source of cash income. In 1931-32 the value of the seed barely covered the cost of the ginning. In the past year the value was sufficiently high to pay the cost of the ginning and to leave a substantial margin for the grower

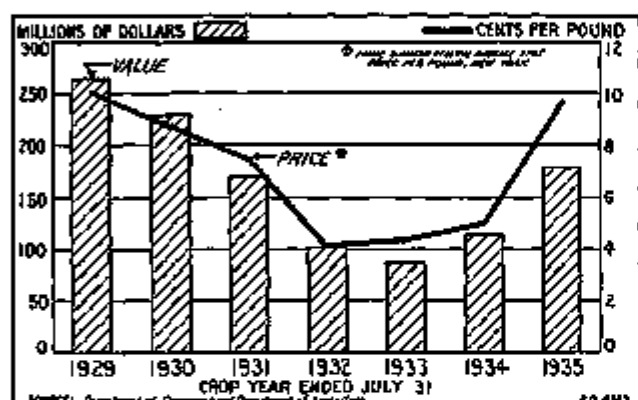


Chart II.—The value of cottonseed products and trend of refined cottonseed oil prices.

for use in settling for the picking and meeting other obligations.

Foreign Trade in Cottonseed and Competing Oils

The export market has for many years provided an outlet for considerable quantities of both cottonseed oil and cake and meal. The 300,000,000-pound oil export figure was reached just before the beginning of the present century. The peak export year was in 1912 when more than 399,000,000 pounds of oil and 647,000 tons of cake and meal were sent abroad. The volume declined in the war years and those immediately thereafter, although in the crop year ended July 1921, the amount of oil exported was 233,000,000 pounds.

Cottonseed oil and some other foreign competing oils were placed on the dutiable list by the Tariff Act of 1921. Since then world trade barriers of various forms have been set up in all important countries for the purpose of increasing the use of domestic fats and oils. In 1922, our exports of cottonseed oil dropped below 100,000,000 pounds, and since 1928 they have been below 50,000,000 pounds. For the 1934-35 season, exports were less than 5,500,000 pounds, and

for the first time in years we imported considerable quantities—approximately 131,000,000 pounds of cottonseed oil and 50,000 tons of cake and meal.

Following the levying of an excise tax in May 1934, covering the first domestic processing of coconut, sesame, palm, palm kernel, sunflower, and whale oils, and copra, imports of such products were temporarily reduced. The imports of oils (including the oil equivalent of the copra imported) covered by the taxes were cut by 323,000,000 pounds in the calendar year 1934, as compared with the year 1933. This reduction occurred despite the heavy inflow in the final 2 months of the year. As a result of this curtailment of the supply, the drought of 1934 which necessitated the slaughter of large numbers of emaciated livestock in the United States, and other influences, there was a steady upward pressure on prices. The accompanying table reveals the extent of the rise in prices of selected vegetable oils, lard, butter, and oleomargarine.

Wholesale Prices of Selected Vegetable Oils, Lard, Oleomargarine, and Butter¹

(Dollars per pound)

Year and month	Cottonseed oil	Coco-nut oil	Corn oil	Peanut oil	Oleomargarine, standard, uncolored	Lard, prime, con-tract	Butter, cream-ery, N. Y. extra
1934							
January.....	0.047	0.028	0.030	0.038	0.070	0.067	0.189
February.....	.031	.028	.043	.044	.078	.066	.256
March.....	.031	.027	.047	.049	.080	.067	.256
April.....	.033	.026	.047	.051	.073	.071	.233
May.....	.030	.020	.046	.054	.070	.066	.248
June.....	.033	.030	.048	.052	.078	.068	.248
July.....	.038	.023	.053	.050	.080	.072	.248
August.....	.048	.037	.058	.050	.080	.060	.237
September.....	.078	.028	.068	.049	.080	.103	.240
October.....	.081	.033	.070	.074	.083	.101	.230
November.....	.093	.031	.083	.082	.100	.113	.253
December.....	.101	.035	.094	.094	.104	.123	.286
1935							
January.....	.100	.041	.099	.107	.110	.130	.241
February.....	.114	.053	.104	.108	.128	.143	.260
March.....	.106	.050	.100	.105	.142	.145	.213
April.....	.103	.050	.095	.095	.140	.138	.240
May.....	.100	.054	.090	.095	.140	.141	.200
June.....	.101	.040	.090	.094	.140	.147	.241
July.....	.090	.038	.088	.090	.135	.161	.237
August.....	.089	.039	.090	.090	.130	.163	.248
September.....	.103	.042	.091	.095	.130	.160	.250
October.....	.104	.040	.094	.095	.142	.161	.276

¹ Quotations at New York, except for peanut oil (mill price) and oleomargarine (Chicago).

Source: Bureau of Labor Statistics, U. S. Department of Labor.

By November 1934, prices were high enough so that it became possible for foreign oils to surmount the trade barriers which had curtailed the inflow from May to October of that year. As a consequence, the import situation during the current year has differed radically from that prevailing during a large part of 1934. Oils not covered by the 1934 Revenue Act also joined in the flow to this country from November 1934 onward.

In the year ended July 31, 1935, vegetable-oil imports increased 231,000,000 pounds, and imports of oil-bearing seeds increased 74,000,000 pounds. Assuming that the oil is crushed from all the oil-bearing seeds, the total increase in imports, on an oil basis, for the 1934-35 season, amounted to 248,000,000 pounds of

cottonseed and all other vegetable oils. The import movement was heavy in the latter half of the year ended July 31, 1935 and has continued in large volume during the first quarter of the current crop year.

Similarly, imports of tallow amounted to 219,000,000 pounds in the year 1934-35, whereas the amount imported in the preceding season was negligible. These additions to the domestic supply were needed for the manufacture of soap, although tallow also found increasing use in edible channels during the year. In years of normal tallow production, considerable quantities are exported.

Notable exceptions to the general trend of imports in the year 1934-35 were provided by copra and coconut oil from the Philippines. The decreases in such products amounted to 86,000,000 pounds for coconut oil and 117,000,000 pounds for copra (oil basis).

In summary, while exports during the year 1934-35 declined, the domestic market for fats and oils provided not only an adequate outlet for the domestic supply but for a large volume of imports as well.

Domestic Use.

As cottonseed oil has successfully competed in the higher-priced edible field, only a small quantity of the oil retained for domestic use goes into inedible channels. In the calendar year 1934, according to the statistics of the Bureau of the Census, only about 6,000,000 pounds of cottonseed oil were used for the production of inedible products, such as soap, while approximately 1,000,000,000 pounds were used in the manufacture of compounds and vegetable shortenings, approximately 55,000,000 pounds in margarine, and 155,000,000 pounds in other edible products, such as packing oil, dressings, and mayonnaise.

The importance of cottonseed oil compared with competitive oils consumed in factory operations is shown by data from the Bureau of the Census.

Cottonseed and Competing Oils Used in Factory Production¹

(Thousands of pounds)

	1931	1932	1933	1934	6 months 1934	6 months 1935
Cottonseed oil.....	1,140,709	1,083,950	1,114,810	1,377,487	880,028	900,728
Coconut oil.....	892,084	649,516	683,828	680,022	461,238	450,744
Fish oils.....	120,783	93,488	106,217	124,480	85,281	101,483
Palm oil.....	235,883	208,547	332,819	181,788	180,438	180,138
Tallow, edible.....	71,886	48,665	61,447	78,908	68,724	91,703
Peanut oil.....	13,443	8,508	8,872	14,993	4,454	80,778
Soybean oil.....	27,883	28,209	22,968	20,807	12,401	08,436
Palm kernel oil.....	54,069	14,516	15,985	22,001	14,892	41,919
Corn oil.....	42,839	43,114	43,940	61,094	46,910	41,802
Oleo oil.....	31,371	18,785	19,091	28,137	20,230	80,042
Sesame oil.....	44,778	10,514	12,804	7,403	5,971	83,443
Animal stearine, edible.....	38,145	24,251	26,421	28,703	20,013	24,304
Lard.....	22,277	19,340	17,486	14,300	11,391	7,588
Total, all fats and oils.....	3,771,460	3,345,568	3,515,041	4,028,003	2,983,710	3,208,836

¹ Calendar years.

Source: Bureau of the Census, U. S. Department of Commerce.

It will be noted that cottonseed oil constitutes approximately one-third of all oils and fats used in factory operations in the production of both edible and inedible products. It will be readily seen that

the consumption of certain competitive oils, notably peanut, soybean, palm-kernel, sesame, and fish oils, has increased in 1935 relatively more rapidly than the total factory consumption.

Increased Use in Margarine Production

For the fiscal year ended June 30, 1935, margarine production, as reported by the Bureau of Internal Revenue, consumed 96,000,000 pounds of cottonseed oil as compared to 24,000,000 pounds for the previous fiscal year, an increase of 300 percent. The total margarine production rose from 243,187,000 pounds in 1933-34 to 354,773,000 pounds in 1934-35, an increase of 46 percent. The 1934 drought and the agricultural adjustment program, which resulted in a smaller production of butter and lard and in rising prices, were the principal factors influencing the increased sale of margarine. With reduced coconut-oil imports, cottonseed oil displaced what would normally have been a correspondingly increased use of the former in margarine production.

Cottonseed and Other Principal Oils Used in the Production of Compounds and Vegetable Shortening¹

(Thousands of pounds)

	1931	1932	1933	1934
Cottonseed oil.....	928,489	894,367	882,843	1,083,723
Coconut oil.....	24,132	5,352	7,117	9,045
Palm oil.....	24,536	23,128	24,110	10,717
Tallow, edible.....	89,548	46,708	60,437	78,410
Animal stearine, edible.....	27,220	17,397	17,166	23,517
Fish oils.....	15,076	11,628	9,272	10,775
Lard.....	8,608	5,036	3,171	2,835
Total, all fats and oils.....	1,208,142	908,577	902,142	1,214,742

¹ Calendar years.

Source: Bureau of the Census, U. S. Department of Commerce.

Need of Price Data Based on Standards

Manufacturers are alert in developing uses and markets for the various cottonseed products, which, in turn, result in a better market for cottonseed. But the industry is still in a somewhat confused condition, owing to unavoidable speculative conditions surrounding the marketing of cottonseed and finished products.

The future progress of the industry and the maintenance of a satisfactory relationship between the growers and manufacturers would be fostered, no doubt, by the establishment of a system of trading on official standards and the collection and dissemination of adequate trade information. The available price data on cottonseed at the present time, while fairly representative and indicative of the monthly trend, are not promptly available to the growers in the hundreds of places where cottonseed is bought and sold and hence are of rather limited use. Generally, the growers are dependent for price information on the amount obtainable for seed in their immediate localities.

The establishment of a source of current price information from which growers and manufacturers could readily obtain data on what is happening in the markets, not only for cottonseed but also for cottonseed products, would constitute an important step forward in the direction of orderly marketing.